

CLAIMS

What is claimed is:

1. A portable communications device comprising:

a wireless telephone transceiver that receives audio and image data;

5 an audio transducer;

a liquid crystal display panel optically coupled to a light source, the light source having a plurality of light emitting diode devices (LEDs);

a lens that enlarges images on the display panel; and

10 a sequential color circuit connected to the display panel and the light source such that the light source generates a plurality of colors in sequence.

2. The device of Claim 1 wherein the LEDs comprise red, green, and blue LEDs.

3. The device of Claim 1 wherein the device comprises a portable telephone.

4. The device of Claim 1 further comprising a reflector around the LEDs.

5. The device of Claim 1 further comprising a diffuser.

15 6. The device of Claim 1 further comprising a lens for magnifying an image of the liquid crystal display panel.

7. The device of Claim 1 wherein the display comprises an active matrix display.

8. The device of Claim 1 further comprising a camera.

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9. The device of Claim 1 wherein the light source comprises a plurality of red, a plurality of green and a plurality of blue LEDs.

10. The device of Claim 1 wherein the display and the sequential color circuit are positioned in a display module housing that is attached to a transceiver housing.

5 11. The device of Claim 1 wherein the device comprises a head mounted display system.

12. The device of Claim 1 further comprising a control processor connected to the sequential color circuit.

10 13. The device of Claim 12 further comprising a memory connected to the control processor.

14. The device of Claim 1 wherein the display comprises an active matrix circuit bonded to a transmissive substrate.

15. A method of displaying images with a portable communications device comprising:
15 receiving audio and image data with a wireless telephone transceiver;
generating a plurality of image with a liquid crystal mix display panel subframes for each color image frame, each subframe having a different color;
a lens that enlarges images on the matrix display panel; and
displaying each subframe in temporal sequence on the liquid crystal matrix display panel illuminated by a plurality of light emitting diode devices (LEDs) to display a color image frame that is enlarged by a lens that is optically coupled to the matrix display panel.

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16. The method of Claim 15 further comprising providing a portable telephone housing that contains the transceiver.

17. The method of Claim 16 further comprising providing a display housing that houses the display, the display housing being pivotably connected to the telephone housing.

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18. The method of Claim 15 further comprising the step of providing an active matrix liquid crystal display panel.

19. The method of Claim 15 wherein the LEDs for illuminating the display is a backlight.

10 20. A portable communications device comprising:
a wireless telephone transceiver that receives image data;
an audio transducer;
a liquid crystal display panel optically coupled to a light source, the light source having a plurality of light emitting diode devices (LEDs);
15 a lens that enlarges images on the display panel; and
a sequential color circuit connected to the display panel and the light source such that the light source generates a plurality of colors in sequence.

21. The device of Claim 20 wherein the LEDs comprise red, green, and blue LEDs.

22. The device of Claim 20 wherein the device comprises a portable telephone.

20 23. The device of Claim 20 further comprising a reflector around the light emitting devices (LEDs).

24. The device of Claim 20 further comprising a diffuser.

25. The device of Claim 20 further comprising a lens for magnifying an image of the liquid crystal display panel.

26. The device of Claim 20 wherein the display comprises an active matrix display.

5 27. The device of Claim 20 further comprising a camera.

28. The device of Claim 20 wherein the light source comprises a plurality of red, a plurality of green and a plurality of blue LEDs.

29. The device of Claim 20 wherein the display and the sequential color circuit are positioned in a display module housing that is attached to a transceiver housing.

10 30. The device of Claim 20 wherein the device comprises a head mounted display system.

31. The device of Claim 20 further comprising a control processor connected to the sequential color circuit.

32. The device of Claim 31 further comprising a memory connected to the control processor.

15 33. The device of Claim 23 wherein the display comprises an active matrix circuit bonded to a transmissive substrate.

34. A wireless telephone comprising:
a telephone housing;

a wireless transceiver within the housing that receives audio and image data;

an audio transducer;

5 a liquid crystal display panel optically coupled to a light source, the light source having a plurality of light emitting diode devices (LEDs);

a lens that enlarges images on the display panel;

the display panel, light source and lens being mounted in a display module housing attached to the telephone housing; and

10 a sequential color circuit connected to the display panel and the light source such that the light source generates a plurality of colors in sequence.

35. The device of Claim 34 wherein the LEDs comprise red, green, and blue LEDs.

36. The device of Claim 34 further comprising a reflector around the LEDs.

37. The device of Claim 34 further comprising a diffuser.

15 The device of Claim 34 further comprising a lens for magnifying an image of the liquid crystal display panel.

39. The device of Claim 34 wherein the display comprises an active matrix display.

40. The device of Claim 34 further comprising a camera.

41. The device of Claim 34 wherein the light source comprises a plurality of red, a plurality of green and a plurality of blue LEDs.

20 42. The device of Claim 34 wherein the display and the sequential color circuit are positioned in a display module housing that is attached to a transceiver housing.

43. The device of Claim 34 wherein the device comprises a head mounted display system.
44. The device of Claim 34 further comprising a control processor connected to the sequential color circuit.
- 5 45. The device of Claim 44 further comprising a memory connected to the control processor.
46. The device of Claim 34 wherein the display comprises an active matrix circuit bonded to a transmissive substrate.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100